AN 504-05 920 Creek Drive, LLC
VAR 2005-6-0014

MSA-S-1829-4756

May 27, 2005

City of Annapolis
Planning and Zoning Department
159 Duke of Gloucester Street
Annapolis, MD 21401

Re: 920 Creek Drive, LLC
Variance Request- Map 8Z, Parcel 28-Tax Account 06410600

Grounds for Variance Request:

The 920 Creek Drive parcel (the "Property") is a developed waterfront residential parcel currently undergoing renovation. In the fall of 2004, after filing notice with the State of Maryland pursuant to the Board of Public Works Expedited Tidal Wetlands License to repair damage caused by Hurricane Isabel, and obtaining a grading permit from the City of Annapolis (Permit #G04-026), the bulkhead on the Property was replaced.

The new Bulkhead was designed and constructed to match the elevation of the neighboring bulkhead. As reflected in the Grading Permit, it was designed with approximately forty-eight (48) cubic yards of fill to be placed behind the bulkhead to raise the ground elevation to match the bulkhead and adjacent parcel. The initial work proceeded but ceased due to the City's view that a variance is needed in order to place fill dirt in the area behind the bulkhead, which is within twenty-five (25) feet of the Mean High Water ("MHW") point (determined by the Applicant and the State to be at the bulkhead location).

The variance requested is from the provisions of §21.67.065 of the City Code, which referenced the Maryland "Buffer Exempt Area Policy" ("BEA" Policy), Specifically, the City references Standards 4c and 6 of the BEA Policy. A copy of the BEA Policy obtained from the State Critical Area Commission is attached for your convenience. As the City believes the placement of fill behind the bulkhead requires a variance from the BEA Policy, the Applicant requests that the variance to allow fill placement consistent with the drawing already approved in the Grading Permit be granted.

The requested variance meets both the requirements of §21.80.040, (Board of Appeals Variances) and §21.67.150 (Critical Area Variance) of the City Code. The physical surroundings and topographical features of the Property will result in the collection of rain water at the base of

the slope of the property if the elevation is not altered. This condition could result in standing water, which presents a health risk as a mosquito breeding area. In addition, the variance will allow successful planting to assist in slope stabilization and buffer performance. These are unwarranted hardships to the owner, thus satisfying §§21,80.040 (1) and 21.67.150 (1) of the City Code.

The condition sought to be redressed is unique to the Property. The base of the waterfront slope, unlike other properties in the area, yields to an extended flat area that, due to past activity on this parcel, has not supported vegetation. This area is substantially lower than the height of the pier and adjacent parcel. It is the applicant's position that these characteristics are unique to this property, thereby satisfying §§21.80.040 (2). In addition, the improvements proposed will eliminate the potential standing water issues and accompanying health concerns as well as make the area function better as a buffer and provide a more attractive area on the waterfront. This is not done for financial gain and satisfies §21.80.040 (3).

The basis for this variance is not the result of any action by anyone with an interest in the Property. The elevation of this area behind the bulkhead is naturally occurring and was not created by the owners. Accordingly § 21.80.040 (4) and 21.67.150 (4) are both satisfied.

The variance desired will be an improvement over the current status of the Property. Filling behind the bulkhead will put the Property at even elevation with adjacent parcels and will eliminate areas of standing water caused by rain events. The actions are not detrimental to public health or welfare, nor are they injurious to other property or impacts. In fact the opposite is true and therefore §§21.80.040 (5) is satisfied.

The proposed variance will not impair light and air supplies of adjacent properties as it is located at the bulkhead, well below the view of adjacent properties. There is no resulting change in use or increased risk posed by the variance. Therefore, §21.80.040 (6) is satisfied.

The City interprets its Critical Area Ordinance as requiring a variance to place fill behind the bulkhead in the area immediately adjacent to the bulkhead as requested. This is due to the City's incorporation of the State Residential BEA Policy. The Residential BEA Policy speaks to a prohibition of "structures", as defined therein, within the twenty-five (25) foot buffer from MHW. Although it is not clear that the dirt fill proposed by the owner is prohibited by this provision, the owner is seeking this variance in order to satisfy any concerns over its on-site activities.

The granting of the variance does not confer any special privilege upon the applicant. In fact, denial of the variance will deprive the applicants of reasonable use of the area in question, which is a right commonly enjoyed by other properties in the vicinity. The owner's plans will improve the ability of the area to serve as a buffer. Strict application of the code as interpreted by the City will deprive the owner of the right to utilize the area in question. Strict application will deprive the owner of rights commonly enjoyed by other property owners within the City's Critical Area. Many such bulkhead replacement projects in the City proceed with only a grading permit. This satisfies §§21.67.150 (2) and (3) for actions of the variance criteria found in the City Code.

Finally, the proposed activity in the variance application will serve to improve water quality and buffer function by allowing vegetation to be established in the area behind the bulkhead. Accordingly, the spirit and intent of the City Code are in harmony with the proposal, and §21.67.150 (5) is also satisfied.

As stated above, and shown in the attached drawing and photographs, the owner satisfied the variance criteria as detailed in The City Code. The owner respectively requests that the variance be granted.

City of Annapolis
May 27, 2005

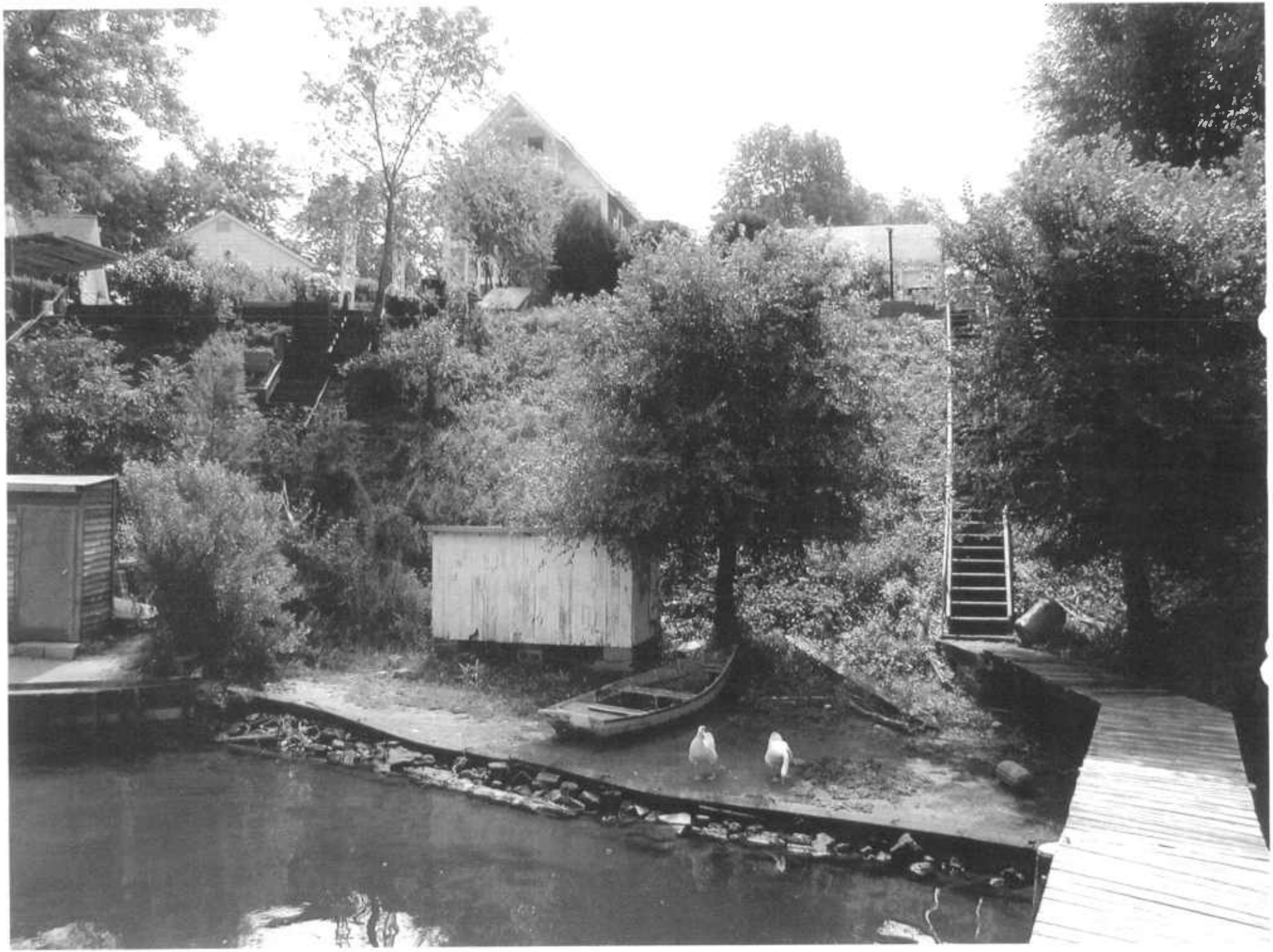
920 Creek Drive, LLC – Variance Application

Re: 920 Creek Drive
Annapolis, Maryland 21403
Map 8Z, Parcel 28
Tax Account 06410500

Persons with Financial Interests

Paul W. Alden Co., Inc.
211 Nichols Manor Road
Stevensville, Maryland 21666

Lance Johnson
2818 Mulberry Hill Road
Annapolis, Maryland 21401




MD7578AW

DETAILS AND SPECIFICATIONS FOR VEGETATIVE ESTABLISHMENT

Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within seven calendar days for the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1) and fourteen days for all other disturbed or graded areas on the project site.

1. Permanent Seeding:
   - A. Soil tests: Lime and fertilizer will be applied per soil tests results for site greater than 5 acres. Soil tests will be done at completion of initial rough grading or as recommended by the sediment control inspector. Rates and analyses will be provided to the grading inspector as well as the contractor.
     1. Occurrence of acid sulfate soils (grayish black color) will require covering with a minimum of 12 inches of clean soil with 6 inches minimum capping of top soil. No stockpiling of material is allowed. If needed, soil tests should be done before and after a 6-week incubation period to allow oxidation of sulfates.

     The minimum soil conditions required for permanent vegetative establishment are:
       - a. Soils pH shall be between 6.0 and 7.0.
       - b. Soluble salts shall be less than 500 parts per million (ppm).
       - c. The soil shall contain less than 40% clay but enough fine grained material (.30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. A exception is if lovegross or serecia lespedeza is to be planted, then a sandy soil (.30% silt plus clay) would be acceptable.
       - d. Soils shall contain 1.5% minimum organic matter by weight.
       - e. Soil must contain sufficient pore space to permit adequate root penetration.
       - f. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil or amendments made as recommended by a certified agronomist.
   - B. Seedbed Preparation: Area to be seeded shall be loose and friable to a depth of at least 3 inches. The top layer shall be loosened by raking, disking or other acceptable means before seeding occurs. For sites less than 5 acres, apply 100 pounds of dolomitic limestone and 21 pounds of 10-10-10 fertilizer per 1,000 square feet. Harrow or disk lime and fertilizer into the soil to a depth of at least 3 inches on slopes flatter than 3:1.
   - C. Seeding: Apply 5-6 pounds per 1,000 square feet of tall fescue between February 1 and April 30 or between August 15 and October 31. Apply seed uniformly on a moist firm seedbed with a cyclone seeder, cultipacker seeder or hydroseeder (slurry includes seeds and fertilizer, recommended on steep slopes only).Maximum seed depth should be 1/4 inch in clayey soils and 1/2 inch in sandy soils when using other than the hydroseeder method. Irrigate if soil moisture is deficient to support adequate growth until vegetation is firmly established. If other seed mixes are to be used, select from Table 25, entitled "Permanent Seeding For Low Maintenance Areas" from the current Standards and Specifications for Soil Erosion and Sediment Control. Mixes suitable for this are 1, 3, and 5-7. Mixes 5-7 are sultable in non-mowable situations.
   - D. Mulching: Mulch shall be applied to all seeded areas immediately after seeding. During the time periods when seeding is not permitted, mulch shall be applied immediately after grading. Mulch shall be unrotted, unchopped, small grain straw applied at a rate of 2 tons per acre or 90 pounds per 1,000 square feet (2 bales). If a mulch anchoring tool is used, apply 2.5 tons per acre. Mulch materials shall be relatively free of all kinds of weeds and shall be completely free of prohibited noxious weeds. Spread mulch uniformly, mechanically or by hand, to a depth of 1-2 inches.
   - E. Securing Straw Mulch: Straw mulch shall be secured immediately following mulch application to minimize movement by wind or water. The following methods are permitted:
     - (i) Use a mulch anchoring tool which is designed to punch and anchor mulch into the soil surface to a maximum depth of 2 inches. This is the most effective method for securing mulch, however, it is limited to relatively flat areas where equipment can operate safely.
     - (ii) Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dry weight of 750 pounds per acre. If mixed with water, use 50 pounds of wood cellulose fiber per 100 gallons of water.
     - (iii) Liquid binders may be used and applied heavier at the edges where wind catches mulch, such as in valleys and on crests of slopes. The remainder of the area should appear uniform after binder application. Binders listed in the 1994 Standards and Specifications for Soil Erosion and Sediment Control or approved equal shall be applied at rates recommended by the manufacturers.
     - (iv) Lightweight plastic netting may be used to secure mulch. The netting will be stapled to the ground according to manufacturer's recommendations.
2. Temporary Seeding:
   - Lime: 100 pounds of dolomitic limestone per 1,000 square feet.
   - Fertilizer: 15 pounds of 10-10-10 per 1,000 square feet.
   - Seed: Perennial rye – 0.92 pounds per 1,000 square feet (February 1 through April 30 or August 15 through November 1). Millet – 0.92 pounds per 1,000 square feet (May 1 through August 15).
   - Mulch: Same as 1 D and E above.
3. No fills may be placed on frozen ground. All fill to be placed in approximately horizontal layers, each layer having a loose thickness of not more than 8 inches. All fill in roadways and parking ares is to be classified Type 2 as per Anne Arundel County Code – Article 21, Section 2-308, and compacted to 90% density; compaction to be determined by ASTM-D1557-66T ASTM-D1557-66T (Modified Proctor). Any fill within the building area is to be compacted to a minimum of 95% density as determined by methods previously mentioned. Fills for pond embankments shall be compacted as per MD-378 Construction Specifications. All other fill shall be compacted sufficiently so as to be stable and prevent erosion and slippage.
4. Permanent Sod: Installation of sod should follow permanent seeding dates. Seedbed preparation for sod shall be as noted in section (B) above. Permanent sod is to be tall fescue, state approved sod: lime and fertilizer per permanent seeding specifications and lightly irrigate soil prior to laying sod. Sod is to be laid on the contour with all ends tightly abutting. Joints are to be staggered between rows. Water and roll or tamp sod to insure positive root contact with the soil. All slopes steeper than 3:1, as shown, are to be permanently sodded or protected with an approved erosion control netting. Additional watering for establishment may be required. Sod is not to be installed on frozen ground. Sod shall not be transplanted when moisture content (dry or wet) and/or extreme temperature may adversely affect its survival. In the absence of adequate rainfall, irrigation should be performed to ensure establishment of sod.
5. Mining Operations: Sediment control plans for mining operations must include the following seeding dates and mixtures: For seeding dates of: February 1 through April 30 and August 15 through October 31, use seed mixture of tall fescue at the rate of 2 pounds per 1,000 square feet and sericea lespedeza at the rate of 0.5 pounds per 1,000 square feet.
6. Topsoil shall be applied as per the Standard and Specifications for Topsoil from the current Maryland Standards and Specifications for Soil Erosionand Sediment Control.

NOTE: Use of this information does not preclude meeting all of the requirements of the "1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control".

NOTE: Projects within 4 miles of the BWI Airport will need to adhere to Maryland Aviotion Administration's seeding specification erstrictions.

STANDARD RESPONSIBILITY NOTES

I (We) certify that:

1. a. All development and construction will be done in accordance with this sediment and erosion control plan, and further, authorize the right of entry for periodic on-site evaluation by the Anne Arundel Soil Conservation District Board of Supervisors or their authorized agents.
   b. Any responsible personnel involved in the construction project will have a certificate of attendance from the Maryland Department of the Environment's approved training program for the control of sediment and erosion before beginning the project.
   Responsible personnel on site: ____________
   c. If applicable, the appropriate enclosure will be constructed and maintained on sediment basin(s) included in this plan. Such structures(s) will be in compliance with the Annapolis City Code.
2. The developer is responsible for the acquisition of all easements, rights, and/or rights-of-way that may be required for the sediment and erosion control practices, stormwater management practices and the discharge of stormwater onto or across adjacent or downstream properties included in this plan. He is also responsible for the acquisition of all easements, rights, and/or rights-of-way that may be required for grading and/or work on adjacent properties included in this plan.
3. Initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within seven calendar days for the surface of all controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1) and fourteen days for all other disturbed or graded areas on the project site. Temporary stabilization of the surface of perimeter controls, dikes, swales, ditches,and perimeter slopes may be allowed at the discretion of the sediment control inspector.
4. The sediment control approvals on this plan extend only to areas and practices identified as proposed work.
5. The approval of this plan for sediment and erosion control does not relieve the developer/consultant from complying with Federal, State or County requirements appertaining to environmental issues.
6. The developer must request that the Sediment Control Inspector approve work completed in accordance with the approved erosion and sediment control plan, the grading or building permit, and the ordinance. On all sites with disturbed areas in excess of 2 acres, approval of the Department of Inspections and Permits
7. All material, shall be taken to a site with an approved sediment and erosion control plan.
8. On all sites with disturbed areas in excess of two acres, approval of the sediment and erosion control inspector shall be required on completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. This will require first phase inspections. Other building or grading inspection approvals may not be authorized until the initial approval by the sediment and erosion control inspector is given.
9. Approval shall be requested on final stabilization of all sites with disturbed areas in excess at two acres before removal of controls.
10. Existing topography must be field verified by responsible personnel to satisfaction of the sediment control inspector prior to commencing work.

Signature(s) of Developer/Owner [signature] Date OCTOBER 20, 2004

Print: Name: CHESAPEAKE DEVELOPMENT GROUP LLC (LANCE JOHNSON)

Title: ____________

Affiliation: ____________

Address: 2213 MULBERRY HILL ROAD
ANNAPOLIS, MARYLAND 21401

Telephone Number: 443-223-3104

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

- i. This practice is limited to areas having 2:1 or flatter slopes where:
  - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies as moisture and plant nutrients.
  - c. The original soil to be vegetated contains materials toxic to plant growth.
  - d. The soil is so acidic that treatment with limestone is not feasible.
- ii. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on these plans.

Construction and Material Specifications

- I. Topsoil salvaged from the existing site may be used provided that it meets the standards as sset forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural experimental Station.
- II Topsoil Specifications– Soil to be used as topsoil must meet the following:
  - i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones.slag.coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1-1/2" in diameter.
  - ii. opsoil must be free of plants or plant parts such as bermuda grass, quackgrass, johnsongrass,nutsedge, poison ivy, thistle, or others as specified.
  - iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- II For sites having disturbed areas under 5 acres:
  - i. Place topsoil (if required") and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.
- III For sites having disturbed areas over 5 acres:
  - i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soikl into compliance with the following:
    - a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be perscribed to raise the pH to 6.5 or higher.
    - b. Organic content of topsoil shall be not less than 1.5 percent by weight.
    - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
    - d. ?No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

    Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
  - ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section I Vegetative Stabilization Methods and Materials.

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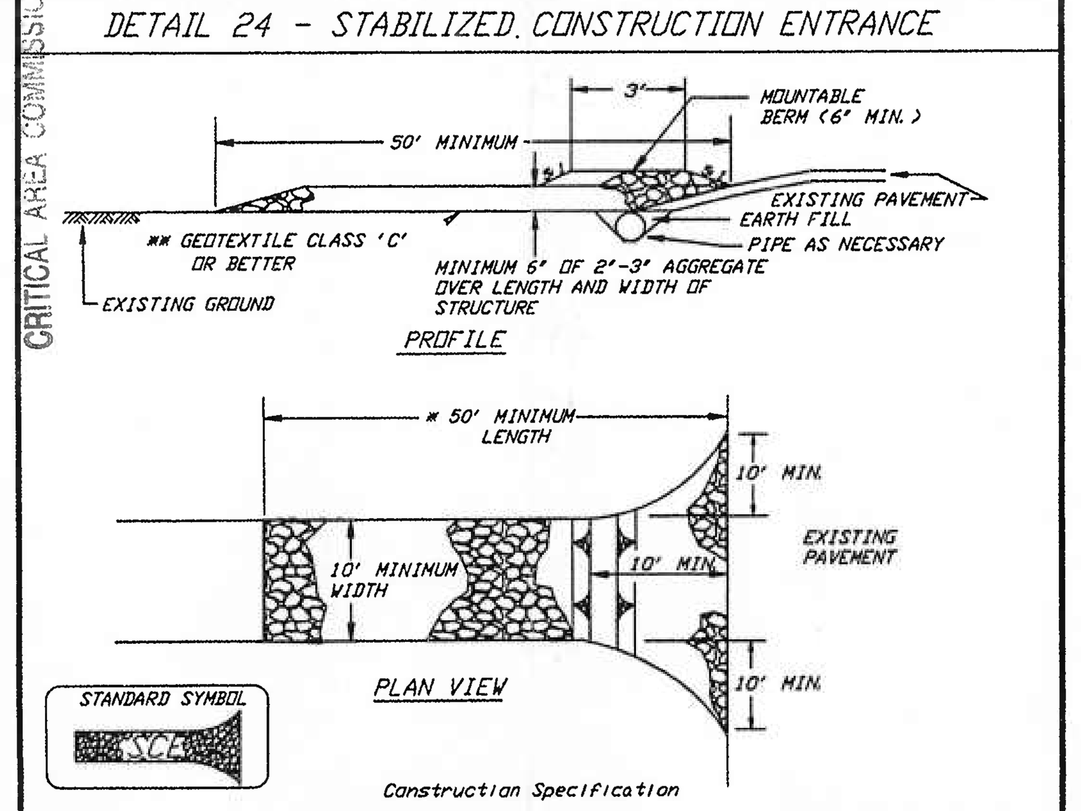
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE

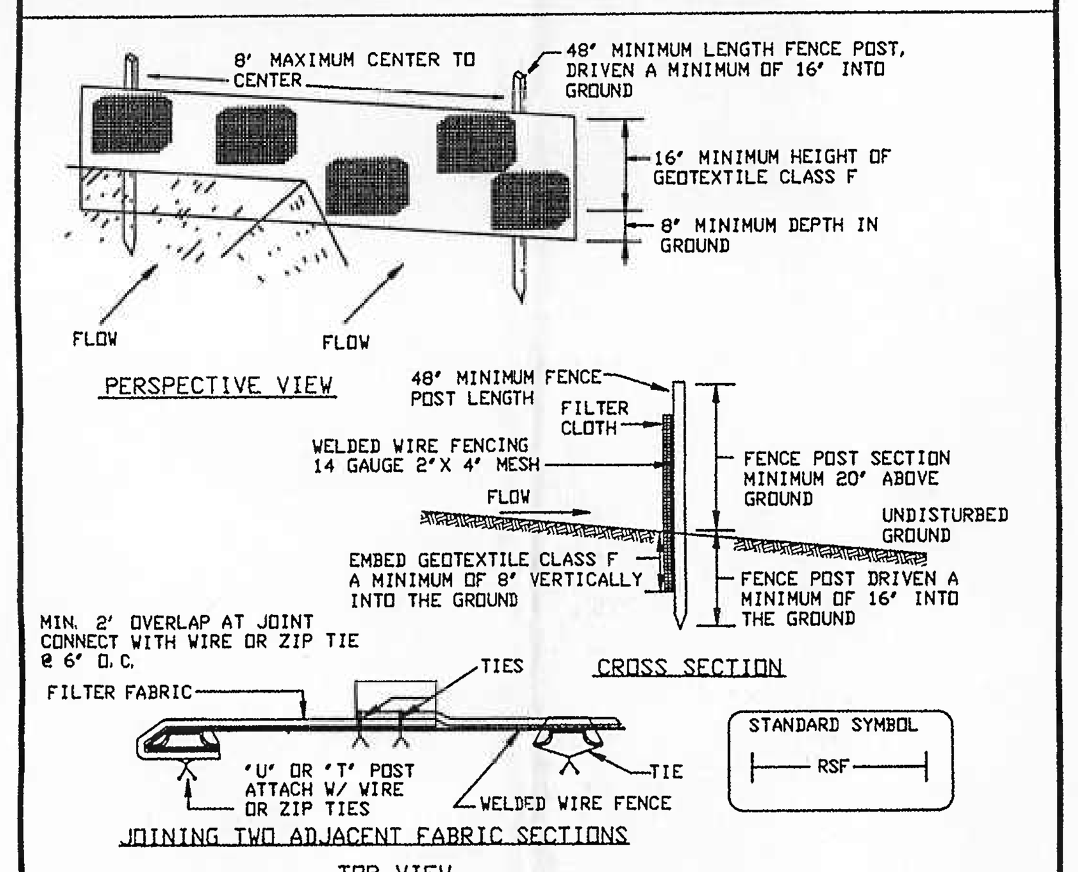


Construction Specification

1. Length – minimum of 50' (*30' for single residence lot).
2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22A - REINFORCED SILT FENCE APPROVED BY MDE 2-7-05



Construction Specifications

1. Metal fence post shall be a minimum of 48" long driven 16" minimum into the ground. Post shall be standard T or U section weighting not less than 1.00 pound per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or zip ties at top and mid section and shall meet the following requirements for geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and wired tied or zip tied to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

ANNE ARUNDEL SOIL CONSERVATION DISTRICT	PAGE E - 15 - 3B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL CONTINUED

- v. Topsoil Application
  - i. When topsoiling, maintain needed erosion and sediment control practices such as diversions,Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
  - ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" – 8" higher in elevation.
  - iii. Topsoil shall be uniformly distributed in a 4"-8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be preformed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
  - iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwis be detrimental to proper grading and seedbed preparation.
- VI. Alternative fo Permanent Seeding – Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
  - i. Composted Sludge ?Material for use as a soil conditioner for site having disturbed areos over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
    - a. Composted sludge shall be supplied by, or originate from, a person or persons thot are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
    - b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 – 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
    - c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
  - iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lbs/1,000 square feet, and 1/3 the normal lime application rate.

  References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub.#1, Cooperative Extension Service, University of Maryland Polytechnic Institutes. Revised 1973.

QUANTITIES

1.	CUT	150 C.Y.			
2.	FILL	150 C.Y.			
3.	AREA TO BE VEGETATIVELY STABILIZED:	3,596	S.F.	0.08	ACRES.
4.	AREA TO BE MECHANICALLY STABILIZED:	4,224	S.F.	0.10	ACRES.

NOTE: THE EARTHWORK QUANTITIES SHOWN ARE FOR THE PURPOSE OF PERMIT FEE CALCULATION. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND SOIL TYPES TO HIS OWN SATISFACTION.

LEGEND

EXISTING GRADE	---------110---------
PROPOSED GRADE	[110]
EXISTING ELEVATION	110.8
PROPOSED ELEVATION	110x8
SILT FENCE	—SF—SF—
LIMIT OF DISTURBANCE	LOD
STABILIZED CONSTRUCTION ENTRANCE	S.C.E.
STOCK PILE	(SP)

SITE ANALYSIS

DRAINAGE AREA: = 0.24 AC.

"C":	=	0.49
Tc:	=	10 MINUTES
I 10:	=	6.0
Q 10:	=	0.49 x 6.0 x 0.24 = 0.7 CFS

Planting notes for 3:1 Bulkhead disturbance:

1. Disturbed area for previous bulkhead construction: = 680 sq.ft.
2. Mitigation required at 3:1 = 2040 sq.ft.
3. Therefore, the total planting required to mitigate the bulkhead disturbance = 20 trees and 60 shrubs.

CRITICAL AREA TABULATION

TOTAL SITE AREA	=	10,320 SQ. FT.
EXISTING WOODLAND AREA	=	-0- SQ. FT.
WOODLAND REMOVED	=	-0- SQ. FT. (0%)

Planting Notes For : Buffer Exemption Area

Accessory Structure Tabulation:

1. Total Accessory Structures in 100' BEA = 1,000 sq. ft.
2. Accessory Structures in first 50' = 165 sq. ft. walkway
3. Accessory Structures in second 50' = 835 sq. ft. walkway and deck.

Reforestation/Replanting Requirement:

1. Four trees are being removed and must be replaced at a 2:1 ratio. Therefore 8 trees or 16 shrubs or an acceptable combination of trees and shrubs must be replanted in the buffer to replace the four trees being removed.
2. L.O.D = 2,700 sq. ft. and must be mitigated at a ratio of 2:1. Therefore, 5,400 sq. ft of reforestation is required to mitigate accessory structures. The following plant spacing and mitigation shall apply for accessory structures in B.E.A.

Credit Square Feet	Plant Size	Plant Spacing
100 Sq. Ft	1 tree (2-inch caliper)	10 foot center
400 Sq. Ft.	1 tree (minimum: 2-inch caliper and either balled and burlapped or container grown) and understory vegetation (minimum: 2 small trees or 3 shrubs)	tree- 20 foot center understory - 10 foot center
50 Sq. Ft.	1 tree (seedings)	7 foot center
50 Sq. Ft.	1 shrub	3-7 foot center

3. For Reforestation, the total required replanting then equals 22 trees and 42 shrubs or an acceptable mixture of trees and shrubs.

SEQUENCE OF CONSTRUCTION

1. PRE-CONSTRUCTION MEETING: NOTIFY THE DEPARTMENT OF INSPECTIONS AND PERMITS AT LEAST 48 HOURS BEFORE COMMENCING WORK. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS.	48 HOURS
2. INSTALL ALL TEMPORARY EROSION CONTROL MEASURES SUCH AS REINFORCED SILT FENCE, STABILIZED CONSTRUCTION ENTRANCE.	2 DAYS
3. RAZE AND REMOVE EXISTING HOUSE.	2 WEEKS
4. EXCAVATE FOR AND CONSTRUCT FOUNDATION. GRADE AND STABILIZE REMAINDER OF SITE. MAINTAIN SEDIMENT CONTROL MEASURES.	20 DAYS
5. CONSTRUCT HOUSE, RECONNECT WATER & SEWER CONNECTIONS, DRIVEWAY AND MAINTAIN SEDIMENT CONTROL MEASURES.	5 MONTHS
6. INSTALL REFORESTATION & SWM PLANTS PLANTINGS.	2 DAYS
7. FINAL CLEANUP, STABILIZATION AND REMOVAL OF REMAINING SEDIMENT CONTROL MEASURES WITH INSPECTOR'S APPROVAL.	5 DAYS

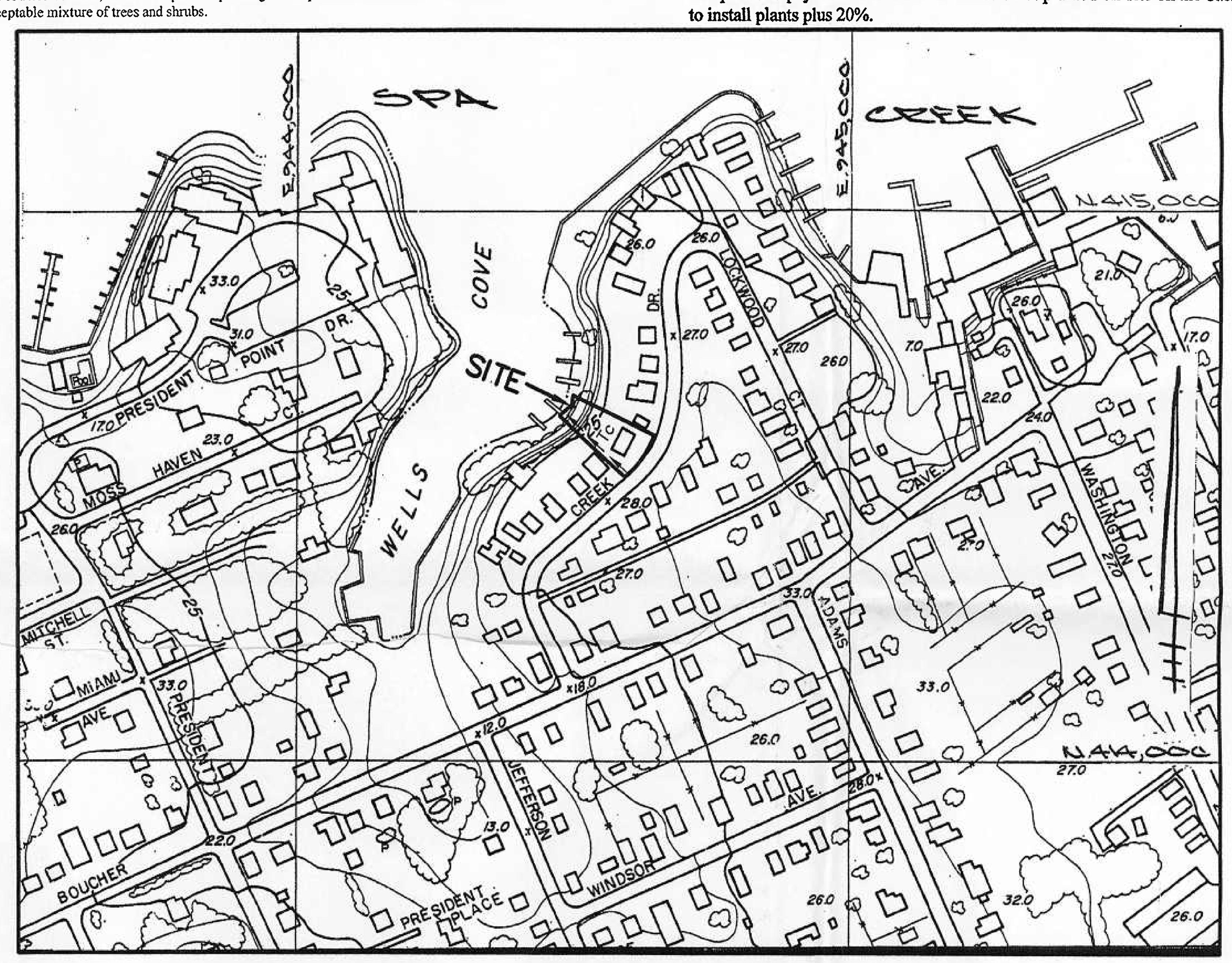
Planting Notes For:
Compliance with SWM Requirements of 10% Rule

Impervious Surface Tabulation:

1. Total impervious surface in 100 foot buffer: 80 sq. ft.
2. Required Planting: Three trees or nine shrubs per each 100 sq. ft. Therefore, 2 trees or 7 shrubs are required for 10% rule compliance for impervious in 100' buffer.
3. Total impervious surface out of 100 buffer: 3,044 sq. ft. However, there is currently 2,582 sq. ft. of impervious out of the 100 buffer. Therefore, the total new impervious out of the 100 buffer is 462 sq. ft.
4. Required Planting: One tree or three shrubs per each 100 sq. ft. Therefore 5 trees or 15 shrubs are required for 10% rule compliance for impervious out of 100' buffer.
5. Therefore total required planting for 10% rule compliance: 7 trees or 22 shrubs or an acceptable combination of the two.

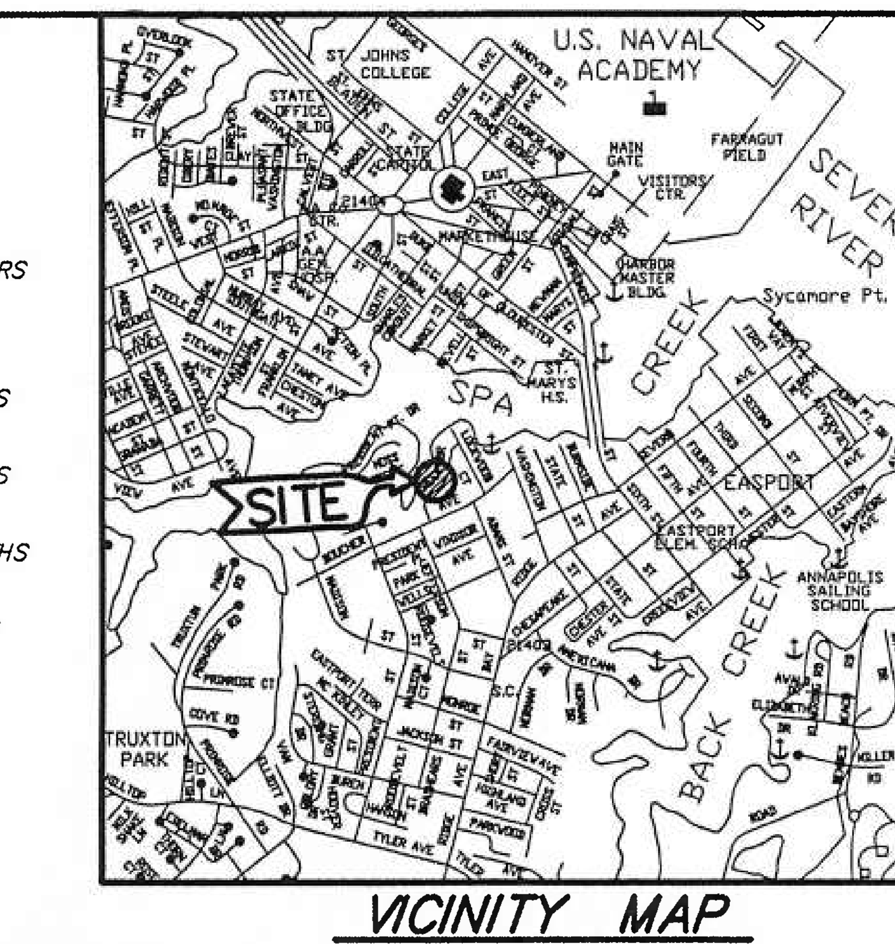
Grand Total Planting Required:

1. In order to comply with the B.E.A. requirements, the bulkhead disturbance mitigation, as well as the 10% rule requirements a grand total of 49 trees and 124 shrubs or acceptable combination of trees/shrubs are required.
2. Please note that since the entire replanting cannot be accomplished on-site, it is acceptable to pay a fee in lieu for the balance not planted on-site on the basis of the cost to install plants plus 20%.



DRAINAGE AREA MAP

SCALE : 1" = 200'



VICINITY MAP

SCALE : 1" = 2,000'

GENERAL NOTES

1. ZONING: R-2
2. SETBACKS: FRONT: 25' (AVERAGE WATERWAY YARD = 94.1') REAR: 30' SIDE: 6'
3. PREDOMINANT SOIL TYPE: MxB MONMOUTH URBAN LAND COMPLEX
4. TOTAL AREA OF SITE: 10,320 S.F. 0.24 ACRES.
5. PROPOSED DISTURBED AREA: 7,820 S.F. 0.18 ACRES.
6. AAANPOLIS CITY TOPO SHEET: X-25
7. F.E.M.A. RATE MAP: 2400090005 B ZONE: C, A-6 (ELEVATION 7.0)
8. THIS LOT IS NOT IN THE 100 YEAR FLOOD AREA.
9. FIELD RUN TOPOGRAPHY BY ED BROWN AND ASSOCIATES, INC.
10. PUBLIC WATER.
11. PUBLIC SEWER.
12. EARTH MOVING: ANY STOCKPILE NECESSARY SHALL REMAIN WITHIN THE LIMITS PROTECTED BY SEDIMENT CONTROL MEASURES. ANY EXCESS SPOIL OR BORROW MATERIAL SHALL BE TAKEN TO OR OBTAINED FROM A. A. CO. APPROVED SITE.
13. DOWNSPOUT PROTECTION: ALL DOWNSPOUTS ARE TO BE CARRIED TO THE TOE OF THE FILL SLOPES, SPLASH BLOCKS ARE TO BE PROVIDED AT ALL DOWNSPOUTS NOT DISCHARGING ONTO A PAVED SURFACE.
14. DISTURBANCE WITHIN CREEK DRIVE MUST BE STABILIZED IMMEDIATELY USING COLD PATCH BITUMINOUS MATERIAL. PERMANENT PAVE PATCHING IN THESE AREAS WITH HOT MIX BITUMINOUS MATERIAL MUST BE COMPLETED WITHIN 14-30 DAYS TO MATCH THE EXISTING PAVEMENT SECTION OF ROAD.
15. THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO CONSTRUCTION. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICES AND MAINS AND ANY DAMAGE TO THEM SHALL BE REPAIRED AT HIS OWN EXPENSE.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OBSERVANCE OF ALL APPLICABLE OSHA REGULATIONS CONCERNING EXCAVATION AND BACKFILL.

Anne Arundel Soil Conservation District
Sediment and Erosion Control Approval

District Official ____________ Date ____________

AASCD# ____________ SMALL POND(S)# ____________

Reviewed for technical adequacy by
USDA, Natural Resource Conservation Service

CONSULTANT'S CERTIFICATION

The Developer's plan to control silt and erosion is adequate to contain the silt and erosion on the property covered by the plan. I certify that this plan of erosion and sediment control represents a practical and workable plan based on my personal knowledge of this site, and was prepared in accordance with the requirements of the Anne arundel Soil Conservation District Plan Submittal Guidelines and the current Maryland Standards And Specifications for Sediment and Erosion Control. I have reviewed this erosion and sediment control plan with the owner/developer.

MD. P.E. License #____________

Md. Land Surveyor License # 10714

Md. Landscape Architect #____________

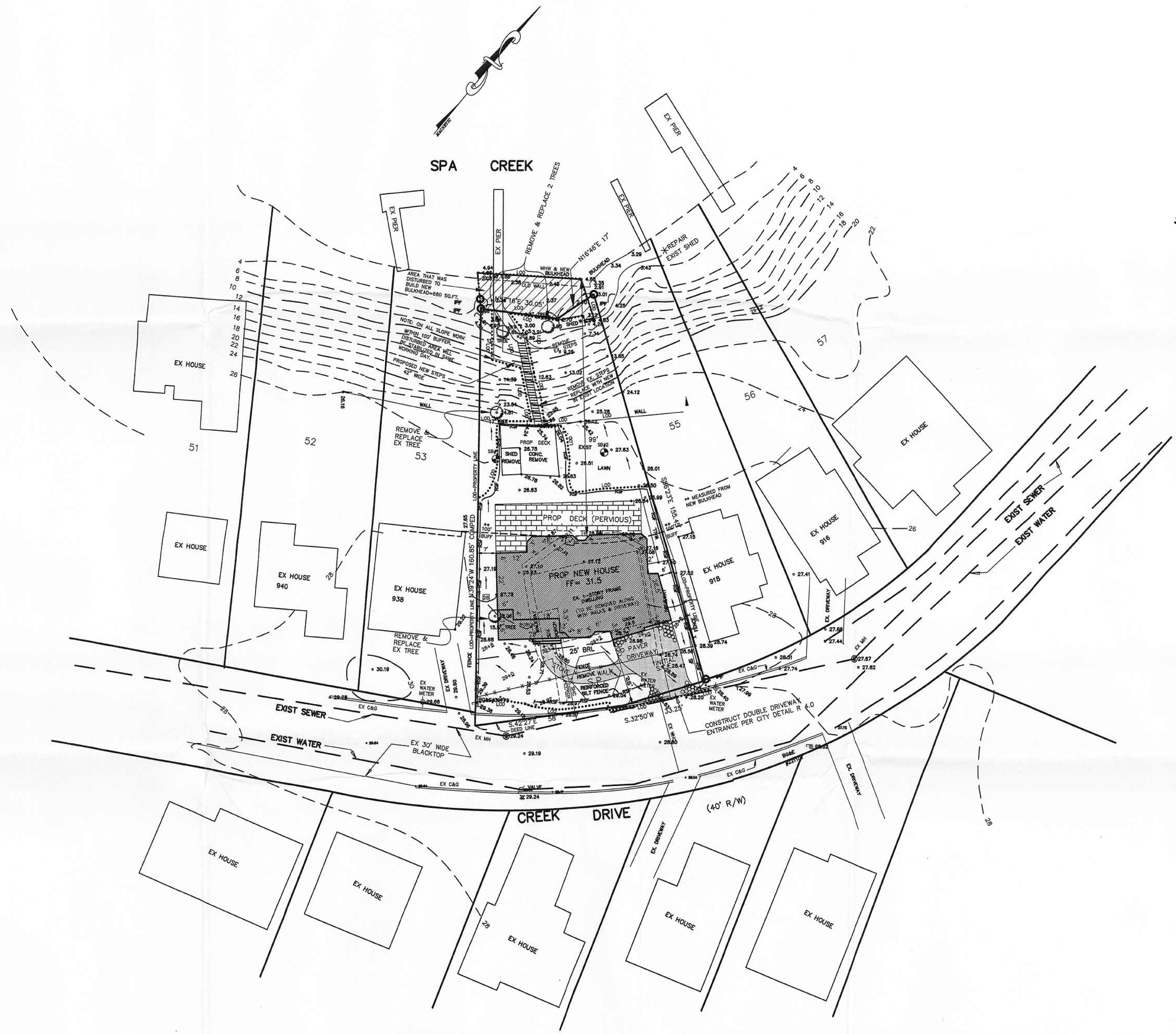
Name:(Print) EDWARD A. BROWN Firm Name: ED BROWN & ASSOCIATES, INC.

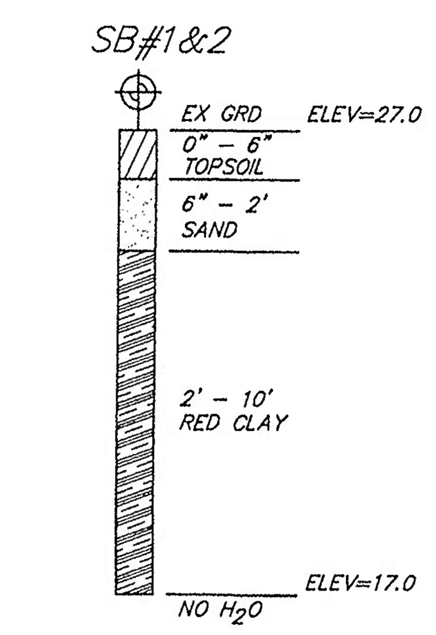
Street Address: 19 LORETTA AVENUE ANNAPOLIS, MARYLAND 21401

STATE OF MARYLAND — EDWARD A. BROWN — No. 10714 REGISTERED PROFESSIONAL LAND SURVEYOR [signature] 5-16-05

ED BROWN & ASSOCIATES, INC.
LAND SURVEYORS - LAND PLANNERS
DEVELOPMENT CONSULTANTS
19 LORETTA AVENUE
ANNAPOLIS, MARYLAND 21401
ANNAPOLIS 410-266-6199 BALTIMORE 410-841-0119

SCALE: AS NOTED	GRADING & SEDIMENT CONTROL PLAN
DATE: MAY, 2005	LOT 54 & 1/2 OF 55 EASTPORT
DRAWN BY: JAY	920 CREEK DRIVE
CHECKED BY: EAB	CITY OF ANNAPOLIS
JOB NO: 04-188	TAX MAP 8Z, BLOCK 2, PARCEL 28, ZIP CODE 21403, ZONING R-2
SHEET NO: 1 OF 2	SIXTH DISTRICT, ANNE ARUNDEL COUNTY, MARYLAND





SOIL BORING#1&2
NO SCALE

LEGEND

EXISTING GRADE	---------110-------
PROPOSED GRADE	110
EXISTING ELEVATION	110.8
PROPOSED ELEVATION	110x8
SILT FENCE	SF——SF
LIMIT OF DISTURBANCE	LOD
STABILIZED CONSTRUCTION ENTRANCE	S. C. E.
STOCK PILE	SP

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

STATE OF MARYLAND EDWARD A. BROWN No. 10714 REGISTERED PROFESSIONAL LAND SURVEYOR 5-16-05

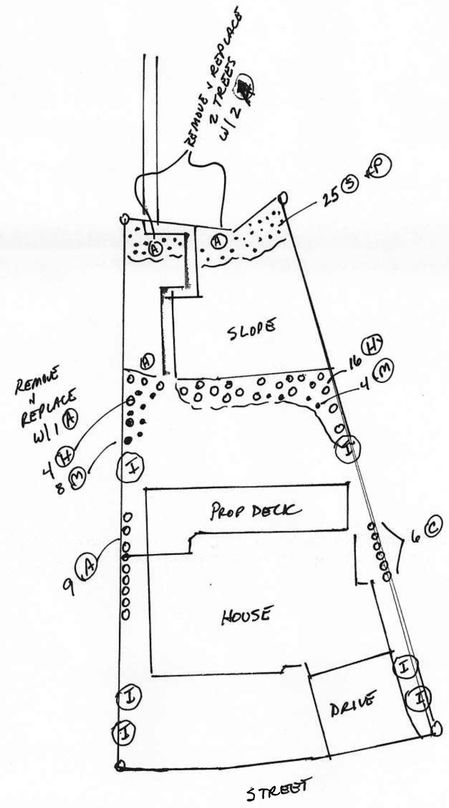
ED BROWN & ASSOCIATES, INC.
LAND SURVEYORS - LAND PLANNERS
DEVELOPMENT CONSULTANTS
19 LORETTA AVENUE
ANNAPOLIS, MARYLAND 21401
ANNAPOLIS 410-266-6199 BALTIMORE 410-841-0119

SCALE: AS NOTED	
DATE: MAY, 2005	
DRAWN BY: JAY	
CHECKED BY: EAB	
JOB NO: 04-188	
SHEET NO: 2 OF 2	

GRADING & SEDIMENT CONTROL PLAN

LOT 54 & 1/2 OF 55
EASTPORT
920 CREEK DRIVE
CITY OF ANNAPOLIS
TAX MAP 8Z, BLOCK 2, PARCEL 28, ZIP CODE 21403, ZONING R-2
SIXTH DISTRICT, ANNE ARUNDEL COUNTY, MARYLAND

04-188GRADING.DWG



Symbols	Common Plant Names	Latin Plant names	Quantity	Size	Cost per plant
I	American Holly	Ilex opaca	6	5'-6' or 2" caliper	$600.00
A	Serviceberry	Amelanchier canadensis	9	~~3 gallon~~ 1 1/2" - 2" cal.	~~$85.00~~ 105.00
C	Sweetbush	Clethra alnifolia	6	3 gallon	$85.00
H	St. John's wort	Hypericum densiflorum	20	3 gallon	$85.00
M	Swamp rose or Mallow	Rosa palustris	12	3 gallon	$85.00
P	Switch grass	Panicum virgatum 'Heavy Metal'	15	3 gallon	$85.00
S	Smooth cordgrass	Spartina alterniflora	13	3 gallon	$85.00

NO	DESCRIPTION	BY	DATE

REVISIONS

ED BROWN & ASSOCIATES, INC.
LAND SURVEYORS – LAND PLANNERS
DEVELOPMENT CONSULTANTS
19 LORETTA AVENUE
ANNAPOLIS, MARYLAND 21401
ANNAPOLIS 410-266-6199 BALTIMORE 410-841-0119

SCALE: 1" = 20'	LANDSCAPE PLAN
DATE: MAY '05	LOT 54 & 1/2 OF 55
DRAWN BY: ANDREA	EASTPORT
CHECKED BY:	920 CREEK DRIVE, SPA CRK.
JOB NO: 04-188	ANNAPOLIS
SHEET 1 OF 1	6TH TAX DISTRICT, A.A. CO.